



Operating instructions for built-in electronic timers with Day and Week programmes

Series 884

Attention:

This operating manual is destined for our OEM customers and is intended as a basis for the instruction manual of their appliances.

Subject to technical modifications and availability.

Operating instructions for built-in electronic timers with Day and Week programmes

Series 884

Electronic timers with Day/Week programmes enable operation on individual days or series of days which are precise to the minute (e.g. Monday to Friday or Saturday to Sunday)

Available with 1 Channel and 2 Channel-set-up



Fig. 1: 1 Channel set-up

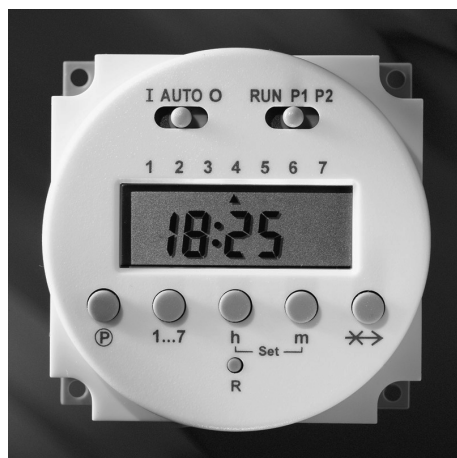


Fig. 2: 2 Channel set-up

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1 General

1.1 How to Use the Manual

Please read this operating instruction carefully before installing, connecting or operating this electronic timer.

1.2 Safety Notes

- **This timer may only be fitted by a qualified electrician.**
- **Warning! Shock hazard! This timer uses the specified supply voltage. Fit the timer appropriately before connecting it to the mains supply. Never touch the live contacts at the back of the timer.**
- **In the case of 12 or 24 V models, the outputs do not correspond to the conditions for safety driven electrical disconnection. The supply voltage to the appliance should only be at SELV (low safety voltage) when a low safety voltage is applied equally to the output. If that is not the case operation with low safety voltage (SELV) is forbidden.**
- **Protection against touch contact must be ensured by a proper mounting. When fitting the timer, make sure that during normal operation of the appliance the timer was fitted in it is impossible to touch the live parts.**
- **When fitting the timer, make sure that during normal operation it is impossible for the end user of the appliance it was fitted in to remove the timer by pulling it to the front and exposing the live parts.**
- **Avoid any contact of the timer with water.**
- **In case of timers with radio time signal receiver (DCF 77) care should be taken to design the antenna and the connecting wires for a supply voltage of 230V. In other words, double or stronger isolation is required.**

1.3 Your Timer

The 884 timer is an electronic **built-in range timer** designed to be fitted into electrical appliances or installations. **The timer may only be operated after installation in a protective housing.**

Series 884

Diehl AKO Stiftung & Co. KG, Werk Nürnberg, Donaustraße 120, 90451 Nürnberg

1.4 Timer features

The 884 timer switches appliances such as kitchen stoves, baking ovens, sauna heating, drying appliances, annealing ovens, burning ovens and laboratory equip-

ment at a particular time or for a preset running time. It thus adds to the operating convenience of such appliances and increases their functional scope.

Depending on the variant either a relay or a transistor is switching the connected appliance.

1.5 Functional Scope

- Day, hour and minute are selectable
- 56 switching programmes (1 Channel set-up)
112 switching programmes (2 Channel set-up)
- Particularly rugged electronics design
- Fast and easy programming
- Optical signals indicate the running of the programmed time
- Easy reading Display with univocal functional symbols
- Time format in 12-hour mode or 24-hour mode
- Radio time reception (DCF) is optional
- Fast and easy selection and setting of the function via six buttons and two sliding switches
- Compact housing

2 Description of the Functional Parts

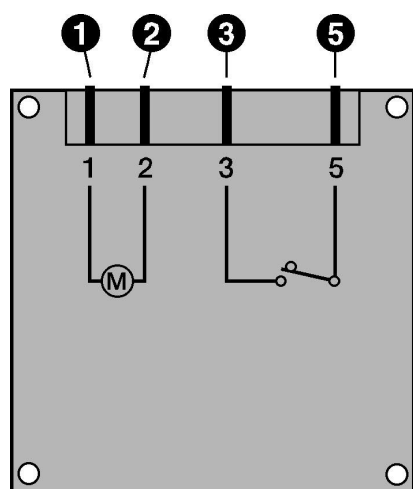


Fig. 3: The functional parts, 1 Channel set-up

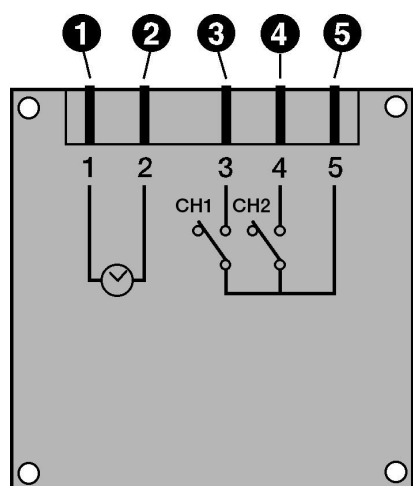
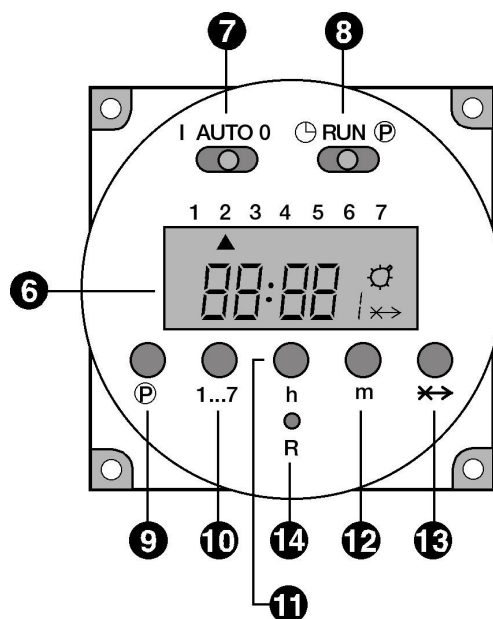
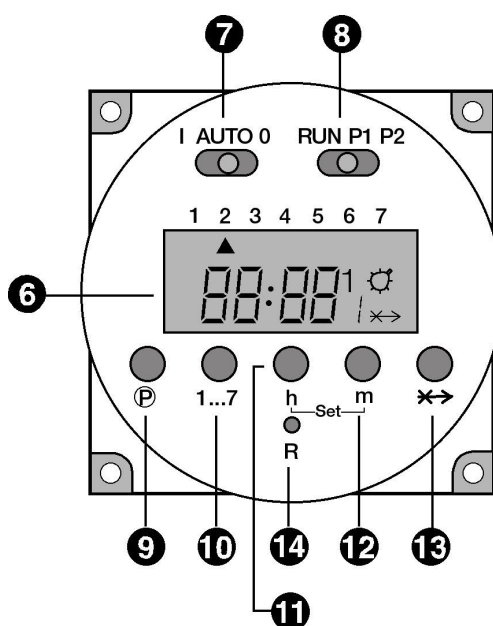


Fig. 4: The functional parts, 2 Channel set-up



Please note:

In relation to days of the week, the timer may be optionally printed with:

1	2	3	4	5	6	7	1...7
---	---	---	---	---	---	---	-------

or

M	T	W	Th	F	S	Su	DAY
---	---	---	----	---	---	----	-----

- (1), (2) Contacts for connection to the mains supply
- (3), (4), (5) Relay contacts
- (6) LCD-Display
- (7) Sliding switches to set operating mode:
 I: Permanently ON
 AUTO: Switches on and off in accordance with programmed
 switch times
 O: Permanently OFF
- (8) Sliding switches to set Time and Switch Times:
 For 1 Channel set-up:
 🕒: Set current time
 RUN: Switch program and clock run
 Ⓟ: Input switch times
 For 2 Channel set-up:
 RUN: Switch program and clock run
 P1: Input switch times for Channel 1
 P2: *Input switch times for Channel 2*
- (9) Ⓟ Button for programming the 16 switch points;
 When time switch points 1, 3, 5, 7, 9, 11, 13, 15, (activate time
 points) are selected, the symbol ★ will appear in the right of the
 display.
 If time switch points 2, 4, 6, 8, 10, 12, 14, 16 (switch off time
 points) are selected, there will be no symbol.
- (10) 1...7: Button to input the day of the week (current day and switching
 day). When programming timing points and individual days the
 following block day programmes are also possible:
 1..5 (Monday to Friday) 1..6 (Monday to Saturday)
 6..7 (Saturday to Sunday) 1..7 (Monday to Sunday)
- (11) h: Button to input hours
 (for current time and switching time)
- (12) m: Button to input minutes
 (for current time and switching time)
- (11+12)-Set in the 2 Channel set-up:**
 simultaneously pressing of buttons „h“ and „m“ for 2-3 seconds enables
 the time of day to be set.
- General information for buttons „P“, „1...7“, „h“ und „m“:**
 Short pressing of these buttons gives: counting up by 1 digit
 Pressing for longer than 3 seconds effects: more rapid and continuous
 counting up.
- (13) -X-> Skip-Function:
 Pressing the Skip-button '-X->' results in the fitted timer

reverting to the opposite function mode.

For example: If the timer is in „switched on“ mode, it will be immediately switched off and vice-versa.

- (14) R: Reset button will delete all switching times and current time of day

3 Timer Fitting and Connection

Important! When fitting the timer, see the dimensioned drawing in the product data sheet.

1. Use the contacts (3) and (5) (1 Channel) or (3), (4), (5) (2 Channel) if you wish to connect an appliance or an appliance module to the timer
2. Use the contacts (1) and (2) to connect the timer to the mains supply.
3. Fit the timer by pushing it from the rear into the cutout provided on your appliance and fix it with four screws.

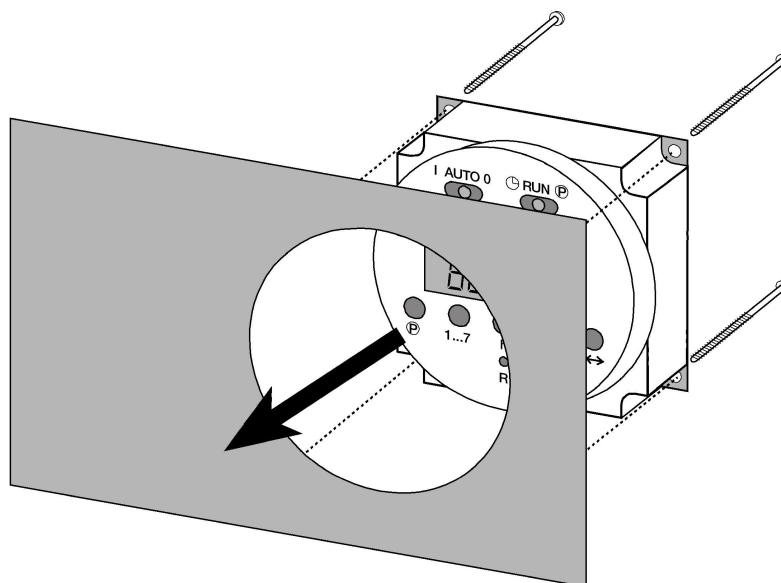


Fig. 5: Fitting the 884

4 Operating the 884

The timer is ready for service after a Reset.


4.1 Reset

Before the first commissioning/programming a Reset must be carried out:

<i>1 Channel</i>	<i>2 Channel</i>
1. Ensure that the right sliding switch is in the RUN position.	
2. Press button „R“ with the point of a biro or similar implement. The Display will start to flash 0:00.	

4.2 Setting the Time and Day

Proceed as follows:

<i>1 Channel</i>	<i>2 Channel</i>
1. Set the right sliding switch to position 	Set the right sliding switch to position RUN and next press buttons „h“ and „m“ simultaneously for 2 to 3 seconds (Set function).
2. Press button „1...7“ to input the day of the week 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday An arrow will be seen in the Display indicating the day of the week.	
3. Use buttons „h“ and „m“ to set the time.	
4. Set the right sliding switch to the RUN position. The time of	After 15 seconds the times will automatically pick up the time of

<p>day will be activated.</p>	<p>day. (The colon in the Display will start to flash.)</p> <p>Or set the right sliding switch briefly to P1 or P2 and then back to RUN. The time of day will be activated immediately.</p>
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4.3 Setting Operation Modes

Operation Mode	1 Channel	2 Channel
Permanently ON The appliance(s) connected is/are permanently switched on	<ul style="list-style-type: none"> Set the left sliding switch to position I. The symbol * shows in Display. 	<ul style="list-style-type: none"> Set the left sliding switch to position 1. Choice of Channel is effected using the Skip button „X->“. <p>Choice: Channel 1: ON or Channel 2: ON or (the other Channel stays in the previous setting) or Channel 1 and 2: ON</p> <p>Set Channel: Channel 1: press once Channel 2: press twice Channel 1 and 2: First select Channel 1 or 2. Then press the Skip button again to select the second Channel.</p> <ul style="list-style-type: none"> The symbol * appears as soon as at least one Channel has been selected. To delete a selected Channel set the left sliding switch for 2-3 seconds to AUTO and then back to I. The permanently ON Channel can be selected again.
Permanently OFF The appliance(s) connected is/are permanently switched off	<ul style="list-style-type: none"> Set the left sliding switch to position 0 <p>The symbol * is extinguished</p>	<ul style="list-style-type: none"> Set the left sliding switch to position O. Choice of Channel is effected using the Skip button „X->“. <p>Choice: Channel 1: OFF or Channel 2: OFF (the other Channel stays in the previous setting) or Channel 1 and 2: OFF</p> <p>Set channel: Channel 1: press once Channel 2: press twice Channel 1 and 2: First select Channel 1 or 2. Then press the Skip button again to select the second Channel. The selected Channel number(s) show in the Display.</p> <ul style="list-style-type: none"> No * symbol. To delete a selected Channel set the left sliding switch for 2-3 seconds to AUTO and then back to 0. The permanently OFF Channel can be selected again
AUTO The appliance(s) connected switch according to a pre-set programme	<ul style="list-style-type: none"> Set the left sliding switch to position AUTO. ON mode: symbol * appears. OFF mode: symbol * is extinguished. 	<ul style="list-style-type: none"> Set the left sliding switch to position AUTO. No Channel selection is possible in this setting – both Channels switch according to how they have been programmed. ON mode: symbol * and the relevant Channel number(s) show up in the Display. OFF mode: symbol * disappears.


4.4 Switching Times

4.4.1 Programming

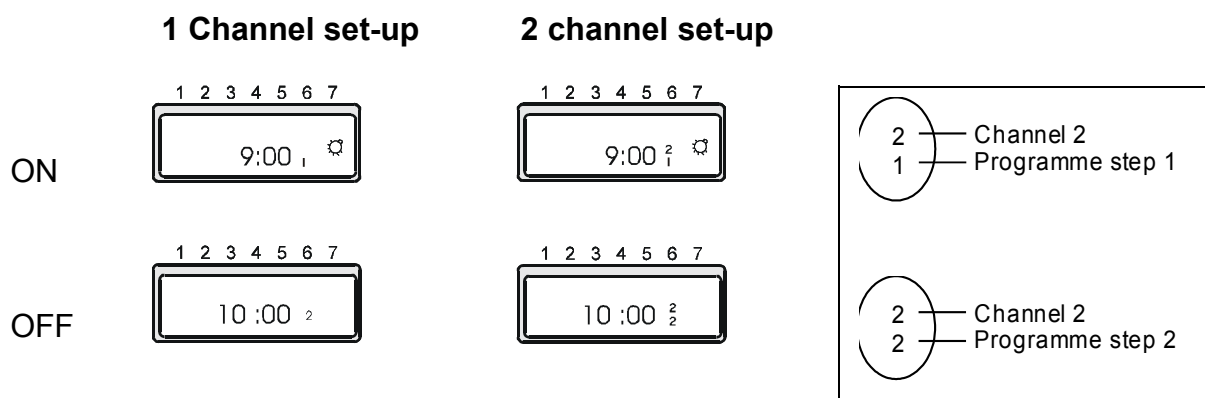
Each Channel has 16 programmeable Switching Points (8 x ON, 8 x OFF):

Nos. 1, 3, 5, 7, 9, 11, 13, 15 are Switch On points (symbol .

Nos. 2, 4, 6, 8, 10, 12, 14, 16 are Switch Off points (no symbol).

The Switch Time selected will be indicated by a number in the lower right of the Display and the symbol .

In addition for 2 Channel set-up the Channel No will be indicated above right.



Please note when programming:

Each switch on point is closely linked to the following switch off point

Switch-point 1: switch on

Switch-point 2: switch off

Switch-point 3: switch on

Switch-point 4: switch off

usw.

They should always be programmed in pairs to avoid errors.

Attention: The shortest possible switching interval is 1 minute!

Proceed as follows:

1 Channel	2 Channel
1. Set the right sliding switch to position P . The first switch point (switch on) is displayed.	Set the right sliding switch to position P1 (Channel 1) or P2 (Channel 2).

2. Setting the Switch On Point

Press button „1...7“ to input the day of the week or blocks of days.

Continuous pressing of this button allows you to select individual days and the following blocks of days:

Press once:	Day 1	(Monday)
Press twice:	Day 2	(Tuesday)
Press three times:	Day 3	(Wednesday)
Press four times::	Day 4	(Thursday)
Press five times:	Day 5	(Friday)
Press six times:	Day 6	(Saturday)
Press seven times:	Day 7	(Sunday)
Press eight times:	Block 1 to 5	(Monday to Friday)
Press nine times:	Block 6 to 7	(Samstag to Sunday)
Press ten times:	Block 1 to 6	(Monday to Saturday)
Press eleven times:	Block 1 to 7	(Monday to Sunday)

Arrows in the Display indicate days of the week.

- Press buttons „h“ and „m“ to set the time.

3. Setting the Switch Off Point

- Press button „P“.
The next switch point (switch off) is displayed.
- Press button „1...7“ to input the day of the week or blocks of days.
Continuous pressing of this button allows you to select individual days or blocks of days.
- Press buttons „h“ and „m“ to set the time.

4. Repeat steps 2 to 3 as often as required.

5. After setting the desired switching times: Set the left sliding switch to position AUTO and the rightsliding switch to position RUN.
The timer will now operate according to the programmed switching times.

4.4.2 Programme Running

When reaching the Switch On Point the connected appliance will be switched on. During the activated time the symbol ★ will be shown in the display. When reaching the Switch Off Point the connected appliance will be switched off and the symbol disappears.

4.4.3 Checking, changing and deleting switching times

Proceed as follows:

<i>1 Channel</i>	<i>2 Channel</i>
1. Set the right sliding switch to position P	Set the right sliding switch to position P1 (Channel 1) or P2 (Channel 2).
2. Checking Press button „P“ as often as necessary to show the desired switching point in the Display. The Switching Points which are not activated will be indicated by flashing „0:00“.	Press buttons „P1“ or „P2“ as often as necessary to show the desired switching point in the Display.
3. Changing Use button „P“ to flag up the desired „saved“ location. Press buttons „1...7“ to change the day of the week. Press buttons „h“ and „m“ to change the switching time, as described earlier.	
4. Deleting Use button „P“ to flag up the desired „saved“ location. Then press button „-X->“ and button „P“ simultaneously for 3 – 4 seconds. The Display will show a flashing 0:00 and the switching point is deleted.	
5. If the check, change or deletion is complete set the right sliding switch back to position RUN.	

4.4.4 Skip-Function (Soft-Override)

The Skip Function changes the switching mode of the appliance connected until the next step of programme is reached.

For instance: if the appliance is in ON mode, pressing the Skip-button '-X->' will immediately turn it off and vice-versa.

Proceed as follows:

1 Channel	2 Channel
1. Set the right sliding switch to position RUN.	
2. Press the Skip button "-X->".	Pressing Skip button „-X->“ once switches Channel 1. Pressing Skip button „-X->“ twice switches Channel 2.
The appliance will change over to the opposite switching mode. The Skip symbol (-X->) show up in the Display..	
3. Further pressing of the Skip button „-X->“ brings up the Skip Function again.	

Please note in connection with the Skip Function:

- Display of the number and the symbol occurs after a lapse of about 3 seconds.
- The Skip Function only operates until the next programmed switch time is reached. At this point the Skip Function is deleted and the programmed switch time cycles are activated again.

5 Programming Errors

Every switch on point is closely linked to the following switch off point. Therefore the following combinations of on/off switching can, for example, lead to errors:

Switch on time	Switch off time
Switch on time programmed	No setting
No setting	Switch off time programmed
Day block (e.g. 1, 2, 3, 4, 5)	Different day block (e.g. 1, 2, 3, 4, 5, 6)
Day block	Week day
Switch on time programmed (e.g. Wednesday, 09:00)	Switch off time is <i>before</i> the switch on time on the same day (e.g. Wednesday, 08:59)
On and Off switch times occur at the same time (e.g. Wednesday, 09:00)	

6 Technical Data

Functions	
Installation:	in appliances of Safety Class I and II
Time switch:	day and week programme
Shortest intervall:	1 min.
Output:	Relay or transistor output
Action:	type 1B (relay switching version), type 1Y (transistor version)
Operation:	via 6 buttons and 2 sliding switches
Display:	LCD
Power failure bridging:	> 5 Years with lithium battery (3 V)
Product features	
1 channel	
Switching capability:	16 (8 x ON, 8 x OFF), with day blocks up to 56 switching possibilities
Breaking capacity:	10 A/250 V AC (ohm.) or 4 A/250 V AC (ind.)
Product features	
2 channel	
Switching capability:	16 each channel (8 x ON, 8 x OFF), with day blocks up to 112 switching possibilities
Breaking capacity:	2x5 A/250 V AC (ohm.) or 2x2 A/250 V AC (ind.)
DCF	In the case of 2 channel set-up, DCF input/reception (radio reception in accordance with german time standard) is available for option. Attention, antenna and connecting cables have to be for 230V. Please follow the safety instructions on page 3.
Specifications	
Mains voltage (VDE-tested):	12 VAC/DC, 24 VAC/DC, 230-240 VAC \pm 10%
Mains voltage (UL-tested):	110-120 VAC, 220-240 VAC \pm 10 %
Mains frequency:	50/60 Hz
Power input	ca. 3,2 VA
Ambient temperature	0 °C - +55 °C
Control pollution:	Normal
Connection	
Electrical connections:	connection to the mains supply and power relay via flat plug 6.3 x 0.8 mm according to DIN 46244
Conformity mark:	VDE or UL
Subject to technical modifications	